

CLAIMS

- 5 1. An antigenic composition comprising at least one antigen, wherein said at least one antigen comprises at least part of a protein of *Streptococcus equi* subsp *equi*, and said at least part of said protein comprises at least one antigenic epitope or antigenic determinant of *Streptococcus equi*, and wherein said protein is comprised of EAG comprising an amino acid sequence according to SEQ ID NO: 1, or an
10 analog thereof.
2. The antigenic composition of claim 1, which comprises at least one further antigen that comprises at least part of a fibronectin-binding protein of *Streptococcus equi*, said at least part of said protein comprising at least one antigenic epitope or
15 antigenic determinant of *Streptococcus equi*, and wherein said protein is selected from the group consisting of FNZ comprising an amino acid sequence according to SEQ ID NO: 2 and SFS comprising an amino acid sequence according to SEQ ID NO: 3, or an analog thereof.
- 20 3. The antigenic composition of claim 1 or 2, which comprises at least one further antigen that comprises at least part of a protein of *Streptococcus equi* and said at least part of said protein comprises an antigenic epitope or an antigenic determinant of *Streptococcus equi*, and wherein said protein is comprised of SEC comprising an amino acid sequence according to SEQ ID NO: 4, or an analog thereof.
- 25 4. The antigenic composition of claim 1, 2, or 3 which comprises an N-terminal fragment of a protein selected from the group consisting of EAG and FNZ.
- 30 5. The antigenic composition of claim 3, wherein said antigens are comprised of at least part of EAG, FNZ, SFS, and SEC, optionally, said at least part of EAG and FNZ being an N-terminal part thereof, said at least part of SFS being a C-terminal part of SFS, and said at least part of SEC being a collagen-binding part of SEC.

6. A vaccine composition for protecting non-human mammals against infection of *Streptococcus equi*, which comprises the antigenic composition of claim 1 as immunizing component and a pharmaceutically acceptable carrier.

5 7. The vaccine composition of claim 6, which comprises the antigenic composition of any one of claims 2-5 as immunizing component.

8. The vaccine composition of claim 6 or 7, which further comprises an adjuvant.

10 9. The vaccine composition of any one of claims 6-8, which is a vaccine that protects susceptible mammals, suitably horses, against strangles caused by *Streptococcus equi* subsp. *equi*.

15 10. The vaccine composition of claim 7, which is provided in a physiologically administrable form and suitably is administrable by subcutaneous or intranasal inoculation.

20 11. The vaccine composition of claim 9 or 10, which stimulates serum, mucosal and/or bronchial lavage antibody responses directed to *Streptococcus equi* antigens in mammals susceptible to *Streptococcus equi*, suitably horses.

12. A method for producing an antigen of an antigenic composition of any one of claims 1-5, which method comprises

25 (a) providing a DNA fragment encoding said antigen and introducing said fragment into an expression vector;

(b) introducing said vector, which contains said DNA fragment, into a compatible host cell;

(c) culturing said host cell provided in step (b) under conditions required for expression of the product encoded by said DNA fragment; and

30 (d) isolating the expressed product from the cultured host cell, and, optionally,
(e) purifying the isolated product from step (d) by affinity chromatography or other chromatographic methods known in the art.

13. A method for preparation of a vaccine according to any one of claims 6-11, which vaccine contains as immunizing component, an antigenic composition of any one of claims 1-5, said method comprising mixing said antigenic composition and a pharmaceutically acceptable carrier.

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14. Use of an antigenic composition of any one of claims 1-5 in the preparation of a vaccine protecting against *S. equi* infection inclusive of strangles caused by subsp. *equi* infection in horses.

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15. A method for the production of an antiserum, said method comprising administering an antigenic preparation of any one of claims 1-5 to an animal host to produce antibodies in said animal host and recovering antiserum containing said antibodies produced in said animal host.

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16. A method of prophylactic or therapeutic treatment of *S. equi* infection in non-human mammals, suitably horses, comprising administering to said mammal an immunologically effective amount of a vaccine of any one of claim 6-11 or an antiserum produced according to claim 15.

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17. A method for protecting horses against *Streptococcus equi* infection, which comprises inoculating a horse subcutaneously or intranasally with a vaccine of any one of claims 6-11 to induce an immune response against *Streptococcus equi* in said horse.

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18. The method of claim 17, wherein an immune response in the form of IgG and/or IgA and/or IgM antibodies in the nasopharyngeal mucus is induced in said horse.

19. Monoclonal antibodies against antigen(s) of the composition of any of claims 1-4 to be used prophylactically or therapeutically against strangles.

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20. The antigenic composition of any one of claims 1-5, which comprises at least part of a protein designated Scl and comprising an amino acid sequence according to SEQ ID. NO:23 or a fragment thereof, suitably a fragment designated SCL C1 and

comprising an amino acid sequence according to SEQ. ID. NO:27, or an analog thereof.